

REMARKS

Claims 1, 11-18, 20, 22, 24, 25, 33-46, 51, 53-55, 59-72 and 74 are pending in the present application, of which claims 1, 25 and 51 are the only independent claims. Claims 1, 11-18, 20, 22, 24, 25, 33-46, 51, 53-55, 59-72 and 74 stand rejected. Claims 10, 32 and 73 have been canceled. Claim 1, 24-25 and 33-36 have been amended. Support for the amendments may be found in the cancelled claims. Accordingly, no new matter has been added to the application.

Claim Rejections - 35 USC § 101

Claims 51, 72, and 74 are rejected under 35 U.S.C. § 101 because, according to the office action, the claimed invention is directed to non-statutory subject matter. Applicants respectfully submit that the rejection is in error and therefore Applicants traverse the rejection. Under MPEP 2111.01, claim terms are given their plain meaning. “Plain meaning refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art.” (MPEP 2111). Here, the rejected claims are directed to computer readable storage media, and the examiner has provided no evidence at all of the meaning of the terms. Applicants’ application is silent on signals and propagating media, however, computer readable medium is discussed. The office action has provided no proof or argument to show that a person having ordinary skill in the art would interpret a computer readable storage medium as including signals and propagating media where the specification makes no such claim. Instead, the examiner merely states that the term could cover non-statutory subject matter without providing any evidence. Accordingly the rejection is in error and Applicants traverse. Withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 USC § 102

Claims 1, 11-14, 17, 20, 22, 24, and 53-55, are rejected under 35 U.S.C. § 102(b) as being anticipated by Ohta et al. (US Patent 6,330,214 - hereinafter Ohta). Claim 1 has been amended to incorporate the limitations of previously presented claim 10, thereby obviating the rejections under 35 USC § 102. Withdrawal of the rejections are therefore respectfully requested.

Claim Rejections - 35 USC § 103

Independent claim 1 and dependent claims 11-14, 17, 20, 22, 24, 53-55, 65-67, and 69

Claim 1, as amended incorporates the limitations of previously presented claim 10, which was rejected under 35 USC § 103 as allegedly being unpatentable over Ohta in view of Kaneshige et al. (US Patent 6,360,055 – hereinafter Kaneshige). Claims 11-14, 17, 20, 22, 24, 53-55, 65-67, and 69 depend from claim 1 and were rejected in view of Ohta alone or Ohta in view of Kaneshige. Applicants respectfully submit that Ohta in view of Kaneshige does not teach or suggest each of the elements of as amended independent claim 1 and accordingly, Applicants' claim patently defines over the cited art.

As amended, claim 1 recites “wherein at least one buffer of the plurality of buffers corresponding to the first real-time data stream has a minimum buffer capacity that is a function of read speed and at least two seek times, the at least two seek times comprising a time to seek to a location logically forward on the disc, and a time to seek to a location logically backward on the disc.” The office action states at page 10 that Ohta does not teach or suggest such a limitation. Applicants agree. The examiner relies on Kaneshige to cure this deficiency, however, Kaneshige does not teach or suggest such a limitation at all.

Kaneshige appears to be directed towards an interleaved data storage method and multiplexing thereof. For example, the patent calls out a main story having branch stories where “each of the branch stories are recorded time division multiplexed.” (Kaneshige, Abstract). Further, “this invention is in recording . . . a video program that allows a main story to branch off into multiple branch scene (sic) that allows a main story to branch off into multiple branch scene (sic) and the branch scenes to connect to a succeeding main story, divides data on each of the branch scenes into multiple scene cells and arranging the scene cells of the respective branch scenes on a time-division multiplexing basis.” (Kaneshige, Col. 2: 1-8). The process of interleaving data and reading interleaved data is discussed in the specification, and the buffering process appears to relate to interleaving. (Kaneshige, Col 13: 55-Col. 15 26). A jump playback may cause a delay and the formulas in Col. 14 relate to the interleaved unit size and the jumping

time having to do with this interleaved unit. As such, the process appears to be one of interleaving a single data chain, as opposed to “concurrently reading a plurality of data streams” as recited in claim 1.

Claim 1 further recites a “function of read speed and at least two seek times, the at least two seek times comprising a time to seek to a location logically forward on the disc, and a time to seek to a location logically backward on the disc.” The examiner relies on Kaneshige Col. 3 lines 40-44, Figs. 24-25, and Col. 5:52-62 and Col. 15, 1-18. None of these portions, however, consider two seek times. Col. 15, 1-18 has been copied below to emphasize this point.

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Bm=size of the track buffer

Tk=kickback time (corresponding to one rotation time of the disk).

Te=read-in time for one ECC block (24 msec).

Tj=jump time=track seek time (tj)+latency time (=Tk) 5
MAX_Vo=maximum read-out rate for one LVU

The capacity of the buffer memory that ensures the succession of data when the playback apparatus performs a kickback operation and subsequently performs the maximum jump operation is given, in the above condition, by 10

$$Bm \geq \{(2Tj+q+4Te) \times MAX_Vo \times 10^6\} / (2048 \times 8)$$

The unit of Bm is sector, the unit of each of Tk, tj and Te is the second, and the unit of MAX_Vo is the Mbps.

From the above, the track buffer size required depends on 15 Tk, tj and Te of the playback apparatus, and tj depends on the performance of seek operation. Tk and Te depends on the rotational speed of the disk.

Here, seek time is tj. In the equation, there is obviously only one seek time, tj. This is because performing an interleaving, is not the same as **concurrently reading a plurality of data streams** and it has different requirements.

Further, the portions of col. 5 relied upon do not appear to have the meaning given them by the examiner. There, Kaneshige states that the “maximum allowable jump range Jmax in the forward and backward directions with respect to its cell number position.” This appears to mean nothing more than the distance between a first cell and a second cell in the forward direction has a maximum, and the distance between a first cell and a third cell also has a maximum related to

the maximum allowable jump range J_{max} . To conflate this with a “function of read speed **and at least two seek times**, the at least two seek times comprising a time to seek to a location logically forward on the disc, and a time to seek to a location logically backward on the disc” is in error. Therefore, reliance on this portion of Kaneshige by the examiner to show the elements of Applicants’ claims is in error.

Accordingly, for at least the reasons above, Applicants’ claim 1 and the claims that depend there from patently define over the cited art Kaneshige and Ohta. Withdrawal of the rejection and the issuance of a notice of allowance is therefore respectfully requested.

Claims 15-16

Claims 15-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Osakabe (US Patent 6,894,961 - hereinafter Osakabe). Claims 15-16 depend from claim 1. The cited portions of Osakabe are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claims 15-16. Withdrawal of the rejection is therefore respectfully requested.

Claim 18

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Lamkin et al. (US 2002/0078144 - hereinafter Lamkin). Claim 18 depends from claim 1. The cited portions of Lamkin are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claim 18. Withdrawal of the rejection is therefore respectfully requested.

Claims 59 and 64

Claims 59 and 64 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Discenzo et al. (US 2004/0267395 - hereinafter Discenzo). Claims 59 and 64 depend from claim 1. The cited portions of Discenzo are not relied upon to cure the deficiency noted above with respect to

claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claims 59 and 64. Withdrawal of the rejection is therefore respectfully requested.

Claims 60-61

Claims 60-61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Vasko et al. (US Patent 7,058,712 - hereinafter Vasko). Claims 60-61 depend from claim 1. The cited portions of Vasko are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claims 60-61. Withdrawal of the rejection is therefore respectfully requested.

Claim 62-63

Claims 62-63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Horvitz (US Patent 6,009,452 - hereinafter Horvitz). Claims 62-63 depend from claim 1. The cited portions of Horvitz are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claims 62-63. Withdrawal of the rejection is therefore respectfully requested.

Claim 68

Claim 68 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta and Kaneshige as applied to claims 1, 10-14, 17, 20, 22, 24, 53-55, 65-67 and 69 above, and further in view of King. Claim 68 depends from claim 1. The cited portions of King are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claim 68. Withdrawal of the rejection is therefore respectfully requested.

Claims 70-71

Claims 70-71 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta as applied to claims 1, 11-14, 17, 20, 22, 24 and 53-55 above, and further in view of Lamkin and

Takagi. Claims 70-71 depend from claim 1. The cited portions of Lamkn and Takagi are not relied upon to cure the deficiency noted above with respect to claim 1 and Applicants submit that they do not. Therefore, for at least the reasons stated above with respect to claim 1, Applicants traverse the rejection to claims 70-71. Withdrawal of the rejection is therefore respectfully requested.

Independent claim 25 and dependents 32-40, 43-46, 72, and 74

Claims 25, 33-40, 43-46, 51, 72, and 74 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta, and further in view of Takagi (US Patent 5,999,691 - hereinafter Takagi). Applicants have amended claim 25 to incorporate the limitations of claim 32. As amended, Applicants' independent claim 25 recites "determining read performance across the optical media to facilitate ascertaining an optical hardware device's ability to read the optical media, the optical hardware device employed to run the optical media, the determining read performance across the optical media comprising: reading at least a first amount of data from a first position on the optical media such that an internal media cache of the optical hardware device is not concurrently caching the first amount of data when the reading of the first amount of data starts; reading at least a second amount of data from a second position on the optical media, wherein the second position is separated from the first position by data representing an increment of playback time that is sufficient for determining characteristic read performances across the optical media; and reading data from other positions on the optical media to determine read performances across substantially all of the optical media."

In the office action, the rejection of claim 32 fails to address several elements of previously presented claim 32 which is similar to the elements in as amended claim 25. For example, the examiner merely states that Col. 7, lines 30-63 of Ohta cover these several elements of Applicants' claim. Applicants are unclear on to how this section relates to Applicants' claim. Ohta, in this portion "provides an example of memory access for reproduction," however, there is no mention of "such that an internal media cache of the optical hardware device is not concurrently caching the first amount of data when reading the first amount of data starts;" at all. Again, the examiner and this portion of Ohta do not address "wherein the second position is separated from the first position by data representing an increment of playback time that is

sufficient for determining characteristic read performances across the optical media,” as recited in Applicants’ claim. Further, the examiner does not address “reading data from other position on the optical media to determine read performances across substantially all of the optical media.” For each of these elements, the examiner merely points to a section of Ohta that does not appear to disclose these elements at all. Takagi is not relied upon to cure this deficiency and Applicants submit that it does not.

Accordingly, Applicants submit that claim 25 and claims 33-40, 43-46, 51 and 72-74 which depend from claim 25 patently define over the cited art Ohta and Takagi. Accordingly, withdrawal of the rejection is requested.

Claims 41-42

Claims 41-42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta and Takagi, and further in view of King et al. (US 2002/0169996 - hereinafter King). Claims 41-42 depend from independent claim 25. The portions of King cited by the examiner are not relied upon to cure the deficiency noted above and Applicants’ submit that they do not. Accordingly, for at least the reasons noted above with respect to claim 25, Applicants traverse the rejection to claims 41-42. Withdrawal of the rejection is respectfully requested.

Claim 51

Claim 51 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta in further in view of Takagi. Applicants respectfully traverse the rejection. Applicants’ claims recite reading a non-real-time data stream and concurrently reading a real time data stream. The examiner alleges that col. 18, lines 1-8 teaches a non-real-time data stream. Applicants have included that portion of the specification herein:

The video and audio signals have the compression modes thereof converted by the compression mode converter 215 via the compression mode conversion buffer memory 171 and delivered as compressed digital output signals at an output terminal 216 to an equipment (such as a digital video broadcasting transmitter, digital TV receiver) having video/audio expanders. The outputs may be connected to a computer or the like.

Ohta, Col. 18, 1-8

Here, there is no mention of non-real-time, and the inference drawn by the examiner “lines 1-8 are interpreted as non-real-time-data streams since each frame of the video and audio streams are

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not required to be processed in a timely manner for playback) is in error. There is no mention of timely vs. non timely. Further, there is no mention of non real time or a delay. Applicants are confused how this is considered to be non-real-time and therefore request clarification and withdrawal of the rejection.

CONCLUSION

Based on the foregoing remarks and amendments, Applicants respectfully request withdrawal of the rejection and the issuance of a notice of allowance. If, for any reason, the Examiner feels that the claims are not in a condition for allowance, Applicants encourage the Examiner to contact Applicants' undersigned attorney, Tim Mainzer, in order to resolve any remaining issues.

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